L5 ANSWER 1 OF 1 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-833472 [77] WPIDS
DOC. NO. CPI: C2003-234444
TITLE: New branched polyorganosiloxane polymers with quaternized ammonium groups and their acid addition salts are used in cosmetics, shampoo, conditioner, styling agent, hair colorant, laundry detergent or for substrate surface treatment.

DERWENT CLASS: A26 A87 A96 D21 D25 F06
INVENTOR(S): SOCKEL, K; STACHULLA, K; WAGNER, R; WITOSSEK, A
PATENT ASSIGNEE(S): (GENE) GE BAYER SILICONES GMBH & CO KG
COUNTRY COUNT: 103
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2003078504	A1	20030925	(200377)*	GE	69	C08G077-46<--
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW						
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW						
AU 2003222772	A1	20030929	(200432)			C08G077-46
EP 1487904	A1	20041222	(200501)	GE		C08G077-46
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR						

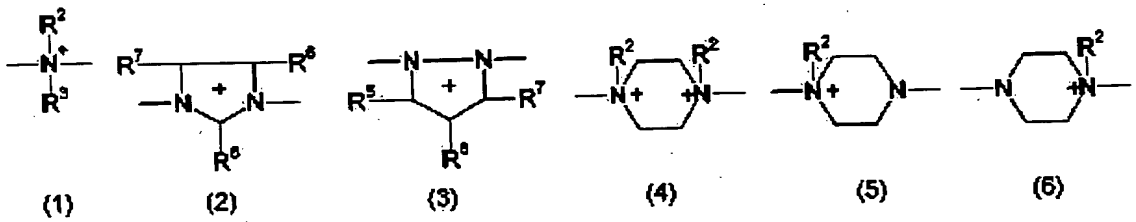
APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003078504	A1	WO 2003-EP2861	20030319
AU 2003222772	A1	AU 2003-222772	20030319
EP 1487904	A1	EP 2003-718698	20030319
		WO 2003-EP2861	20030319

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003222772	A1 Based on	WO 2003078504
EP 1487904	A1 Based on	WO 2003078504

PRIORITY APPLN. INFO: DE 2002-10212470 20020320
INT. PATENT CLASSIF.:
MAIN: C08G077-46
SECONDARY: D06M015-647
GRAPHIC INFORMATION:



BASIC ABSTRACT:

WO2003078504 A UPAB: 20031128

NOVELTY - Branched polyorganosiloxane polymers (I) with quaternized ammonium groups and their acid addition salts are new. (I) consist of divalent linear organo(poly)siloxy group(s) (S), divalent organic group(s) (Q) containing ammonium group(s), not bound to (S) groups, and divalent (substituted) hydrocarbon group(s) (V), bound to (Q) or (S) groups.

DETAILED DESCRIPTION - Branched polyorganosiloxane polymers (I), in which the positive charges resulting from the ammonium groups are neutralized by (in)organic acid anions, and their acid addition salts are new. (I) consist of at least one each of groups of the formulae:

-(S)-; -(Q)-; and -(V)-and

(I) also consist of branching unit(s) selected from (Sv) and (Vv), such that (V) groups are bound to (Q) or (S) groups, (Q) groups are not bound to (S) groups and (S), (Sv), (V), (Vv) and (Q) groups may be the same or different in a polymer molecule.

S = a group of the formula -Si(R1)2-O-(Si(R1)2-O)n-Si(R1)2

The full definitions are given in the DEFINITIONS (Full Definitions) Field.

INDEPENDENT CLAIMS are also included for the following:

(1) Preparation of (I) by reacting (a) organic compound(s) with 2 amino groups with (b) organic compound(s) with 2 epoxy groups and/or (c) organic compound(s) with 2 haloalkylcarbonyloxy groups and also (d) branching compound(s) derived from (a), (b) and/or (c) but with at least one more amino, epoxy- or chloroalkylcarbonyloxy functionality, where at least one of compounds (a, b, c, d) contains a polyorganosiloxane group; and

(2) Compositions containing polymer(s) (I) and other usual content(s) for the composition.

USE - Branched polyorganosiloxane polymers (I) are used in cosmetic formulations, in laundry detergents and for surface treatment of substrates, and in shampoos, 2-in-1 shampoos, clear and cloudy leave-on conditioners, hair rinses or pearlescent formulations, styling gels, mousses and aerosols and hair colorant formulations (all claimed). They are especially useful as washing-resistant hydrophilic softeners and can also be used to assist ironing and inhibit creasing.

ADVANTAGE - Other branched polysiloxane compounds cannot be used as soluble or emulsifiable softeners as they tend to form high-molecular gels. In contrast, (I) are soluble and applicable. They also have higher substantivity than linear polysiloxane compounds and in many cases a higher softening effect. Treated textiles have a soft feel and pronounced hydrophilic property, which is not lost after repeated laundering, even at high temperature.

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TECHNOLOGY FOCUS:

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TECHNOLOGY FOCUS - POLYMERS - Preferred Polymers: Polymers (I) have repeating units of the formulae

-(Q-V1-Q)- and -(V2-S-V2)-, especially -(Q-V1-Q-V2-Q-V2)-.

V1, V2 = same as V or different;

V1 = R9, -(CH2)uC(O)O-((CH2CH2O)q-(CH2CH(CH3)O)r)-C(O)(CH2)u-, -(CH2)uC(O)O-R9-C(O)(CH2)u-, -(CH2)u-R10-(CH2)u-, -(CH2CH2O)q-(CH2CH(CH3)O)r-CH2CH2-, -CH(CH3)CH2O(CH2CH2O)q-(CH2CH(CH3)O)r-CH2CH(CH3)-, -CH2CH(OH)CH2-, -CH2CH(OH)(CH2)2CH(OH)CH2-, --CH2CH(OH)CH2OCH2CH(OH)CH2OCH2CH(OH)CH2- or -CH2CH(OH)CH2O-(CH2CH2O)q-(CH2CH(CH3)O)r-CH2CH(OH)CH2-;

R9 = divalent, saturated or mono- or poly-unsaturated linear or branched 2-25 C hydroxyl;

R10 = an aromatic group;
u = 1-3;
q, r = 0-200;
q + r = more than 0;
V2 = -(CH2)3OCH2CH(OH)CH2-, -(CH2)3OCH2CH(CH2OH)-, -(CH2)m-, -CH=CHCH2-, -CH=CH-CH2CH2-, -CH2CH2CH2OC(O)CH2-, -CH2CH2CH2OC(O)CH2CH2-, -CH=CHCH2OC(O)CH2-, -CH=CHCH2OC(O)CH2CH2- or a group of the formulae (13)-(16); and
m = 2-6.

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; GI
MANUAL CODES: CPI: A10-E01; A12-V04A; A12-V04C; A12-W12A; D08-B04; D08-B13; F03-J03